[redacted]

Ref: 552-OD-229

23 December 1964

STAT [redacted]

Projects 552 & 552A
Progress Report, November 1964

Gentlemen,

Enclosed are three (3) copies each of [redacted] STAT Progress Report on Projects 552 and 552A for the period November 1964. Also included are reports CD-114, "Parts Unacceptable to Customer, but not Supplied by [redacted] STAT, and CD-116, "Report on Stepping Drive on Model 552 System."

Very truly yours,

[redacted] STAT

Vice President - Marketing

RJL/de

Enc: (3) P.R. - 4 pp
(3) CD-114 - 1 pg
(3) CD-116 - 7 pp

4081

STAT

PROGRESS REPORT

For

VERSATILE, HIGH PRECISION STEREO

POINT TRANSFER DEVICE

Period Covered:	November 1964
Dated:	22 December 1964
Job No.:	#552 and #552A
Document No.:	OD-228

STAT

#552 - OD-228

PROGRESS REPORT
For
VERSATILE, HIGH PRECISION STEREO
POINT TRANSFER DEVICE

OBJECTIVE ASSEMBLY

Both assemblies are installed and wired. Wiring is being checked out before system test can be performed. Since three (3) film samples have been received for laser film marking evaluation, test will proceed when wiring check out is completed for laser power supplies, control panel and control cabinet. System should be fired up in December 1964.

EYEPIECE ASSEMBLY

Positive limit stop for angular adjustment has been added and appears to do job well. A solid stop is obtained at both extremes of adjustment. Also, a larger diameter handle has improved operating ease and comfort of this adjustment.

We are making stability checks on mirrors and their mounting scheme as unwanted variations in performance has been noticed in several of the eyepiece assemblies during the past few months. Since the eyepiece assembly must introduce little degradation to fiber cable image, changes in eyepiece image quality is being carefully scrutinized.

Control of ambient light at eye station has been improved. A rubber light baffle surrounds four sides of eye lenses, and all bright metal objects have a black coating. Cover casting directly in front of operator has been painted 3M Black Velvet for lowest possible light reflection.

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Headrest clamping screw is now extended through hood, and has an enlarged gripping diameter to assure secure clamping of headrest.

Eyepiece interpupillary distance adjustment has been improved by addition of a screw adjustment accessible at right side of eyepiece assembly. This will provide desired ease of adjustment, a positive lock, and operator convenience. The complaint of the sloppy eyepiece adjustment should be satisfied with the above mechanism as the former pushing and pulling of eye lenses, and, therefore, image displacement is eliminated.

HIGH INTENSITY LIGHT SOURCE

At the present time, color seen at eye station is due to fiber cable color. This can be partly corrected by a filter with an accompanying loss in brightness. Light source itself attains a color temperature of about 3300 degrees K at 100% output giving "white" light through the required operating range. Customer will have to judge success of filter addition for cable tint change.

VACUUM FILM HOLDDOWN SYSTEM

Because vacuum platens with three (3) microgrooves are not acceptable, we have been attempting to find a solution for use of plain glass surfaces in viewing area. By improving edge guiding of film and altering use of air pressure, some improvement is seen although pull down time is extended considerably to at least 30 seconds when stubborn air pockets on 9 1/2 inch film are encountered. The new experiments have also shown the manifold seals are not too satisfactory under small pressure differences required for better control of air pockets. Further work is required to get plain plates and seals to work satisfactorily.

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MANUAL FILM DRIVE

Much work has been done to lower torque to drive mechanism and film. Changing lubricant in special clutch, eliminating chain binding and reducing ratio slightly between handwheel and spool have reduced torque better than 50% of what was previously experienced by customer.

Manifolds still cause a major part of load seen at handwheel. Developments in vacuum holddown system will have to aid this problem.

WIRING

Circuit change involving two (2) multipole relays is complete and operates successfully. Main cabinet control panel, control cabinet and auxiliary cabinet are wired and are now in final check out phases. System will be fired up this month to provide a wider scanning speed range in the "coupled" mode of scan drive operation the zoom magnification factor in scanning velocity is omitted. Addition of a relay and wiring change have been started and will be completed in December.

Schematics and wiring diagrams are in the process of being up-dated.

ENCODERS

"Optisyn" encoders have been installed. A logic module has been borrowed from [redacted], for encoder check out. A method of accuracy check out has to be considered that will fit under high power objective lens. There is only 7/32 inch air space under lens for grating on thin glass or film. If customer has any device able to fit into this space, tests will be augmented.

STAT

STAT

[redacted]

24 November 1964
552 - CD-114
AKC:rf

Parts Unacceptable to Customer, but not Supplied by [redacted] STAT

1. Z-Axis

Customer comments: What [redacted] has provided STAT does not fall within the design objective, and not adjustable by a seated operator.

2. Transparent Vacuum Edge

The operator must see the information on both edges, without magnification. The system is not usable with an opaque edge since he cannot see frame number.

3. Control Cabinet Height

Top desired to be the same as the working surface of the viewer.

4. Unacceptable Drive System

5. Color Temperature of Light Source, and Uniformity

6. Excessive Play in Eyepiece Mounting

7. Lens adjustment in the Interpupillary Adjustment

8. Need a Load on Top of the Eyepiece

9. Need a Longer Headrest Adjusting Screw

10. 552 ONLY

The vacuum system is not acceptable for 552 since the film cannot be moved, due to the requirement for mensuration.